



EPA PROPOSES ACTION ON THE LYMAN DYEING & FINISHING SITE

Lyman, Spartanburg County, South Carolina

EPA Region 4 Fact Sheet

July 2003

EPA invites public comment on the removal action proposed for the Lyman Dyeing & Finishing Site

INTRODUCTION

The Region 4 Office of the United States Environmental Protection Agency (EPA) has developed this **Proposed Plan** fact sheet to inform citizens and local officials of the **Preferred Alternative** for cleaning up contaminated soil at the Lyman Dyeing & Finishing Site (Site) and the rationale for this preference. In addition, this Plan includes summaries of other cleanup alternatives evaluated for use at this Site.

EPA, the lead agency for site activities, and the South Carolina Department of Health & Environmental Control (SCDHEC), will select a final remedy for the site after reviewing and considering all information submitted during the 30-day public comment period. EPA, in consultation with SCDHEC, may modify the Preferred Alternative or select another response action presented in this Plan based on new information or public comments. Therefore, the public is encouraged to review and comment on all the alternatives presented in this Proposed Plan.

A **Remedial Investigation/Focused Feasibility Study (RI/FFS)** has been completed for the Site pursuant to EPA's remedial action authority. The RI/FFS includes an evaluation of various cleanup alternatives for the Site. For reasons set forth below, EPA has decided to proceed with a **Non-Time-Critical Removal** at the Site. The alternatives evaluated under the RI/FFS will therefore be implemented as part of a non-time-critical removal action.

EPA is issuing this Proposed Plan as part of its public participation responsibilities under Section 117(A) of the **Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)** of 1980, as amended by the **Superfund Amendments and Reauthorization Act (SARA)** of 1986, and Section 300.430(f)(2) of the **National Oil and Hazardous Substances Pollution Contingency Plan (NCP)**. This Proposed Plan summarizes information that can be found in greater detail in the RI/FFS reports and other technical documents in the **Administrative Record** file for this site. This plan summarizes key information from the

Administrative Record. EPA and SCDHEC encourage the public to review these documents to gain a more comprehensive understanding of the Site and Superfund activities that have been conducted at the Site.

For more information regarding the Administrative Record for the Lyman Dyeing & Finishing Site, refer to the **information repositories** listed on page 8.

Terms that appear in **bold** throughout the text are defined in the glossary at the end of this publication.

IMPORTANT DATES

EPA's Proposed Cleanup Plan Public Comment Period:

August 7, 2003 - September 5, 2003

Availability Session

Thursday, August 7, 2003

4:00 p.m. - 6:00 p.m.

Middle Tyger Community Center
84 Groce Road, Lyman, SC

Public Meeting

Thursday, August 7, 2003

the meeting will begin at 7:00 p.m.

Middle Tyger Community Center
84 Groce Road, Lyman, SC

SITE BACKGROUND AND HISTORY

The Site is located in the southern portion of the Town of Lyman, Spartanburg County, SC. The Site is approximately one-half mile southeast of the Town of Lyman located immediately south of the Springs Lyman Dyeing & Finishing Facility, Wamsutta Dye House. A Site vicinity map is included in Figure 1 at the end of this publication. The 14-acre Site is peninsular in shape and is bounded on

three sides by the Middle Tyger River. The Site is densely vegetated with trees, brush and kudzu. Most of the Site is located within the 100-year flood plain of the Middle Tyger River. Prior to January 2003, a horseshoe shaped surface debris berm was located along the Site's southern boundary.

The area surrounding the Site generally consists of industrial, residential and commercial properties. Startex-Jackson-Wellford-Duncan (SJWD) Water District operates a municipal water treatment plant east and next to the Site. Residential neighborhoods are to the west of the Springs facility, and beyond the river to the southwest of the Site area. Residential neighborhoods are also found beyond the river to the south.

The Lyman Dyeing & Finishing Mill began production in 1924 as Pacific Mills and operated as such until 1955 when the M. Lowenstein Company (Lowenstein) purchased the mill and the surrounding area. From approximately 1924 to 1965, Lyman Printing & Finishing, a subsidiary of Lowenstein operated a waste disposal facility on the peninsular shaped area immediately south of the facility and adjacent to the Middle Tyger River. The waste disposal facility was used in the past as a disposal location for various solid wastes from the facility. Potential chemicals associated with the solid wastes from the facility include residues of dyes, hydraulic liquids, waste solvents, adhesive materials, and office supplies. Springs acquired the facility in 1986.

Between 1992 and 1997, various investigations and assessments of the **environmental media** were conducted at the Site. In January 1993, SCDHEC prepared a Preliminary Assessment (PA) report for Site. The PA report recommended that the waste disposal area be evaluated further to determine past or present influences on environmental pathways (**groundwater, surface water** and soil). In July 1993, EPA and SCDHEC conducted sampling at the Site to decide if an immediate threat was present. This investigation of the Site revealed no immediate, short-term threats to human health or the environment. However, the investigation did reveal the presence of kudzu-covered mounds of buried debris and drums. In 1994, approximately 50 tons of waste materials (waste composed of empty, crushed, rusted drums; rusted metal debris; soil; plastic; wood; paper; powdered dye; and rubber) were removed from the Site by Springs and disposed at the Palmetto Landfill in Wellford, South Carolina.

In the summer of 1994, EPA conducted a **Site Investigation (SI)** at the Site. The results of the investigation showed the presence of substances at varying concentrations and recommended the collection of additional environmental samples. In April 1997, Springs did a second removal of

additional waste materials from the eastern side of the Site adjacent to the Middle Tyger River and disposed the waste at the Palmetto Landfill in Wellford, South Carolina.

To address the recommendations provided in the SI report, EPA conducted additional investigation activities at the Site in 1997. In summary, the results of the 1997 investigation revealed the following information for the Site:

- Although two removal actions of waste materials were conducted at the Site, substances at varying concentration levels are still present at the Site and in the Middle Tyger River.
- Monitoring shows that no compounds were found at the SJWD surface water intake with concentration levels above EPA's safe **Drinking Water Standards**. One example, Lead was detected at 4 **parts per billion (ppb)** which is below EPA's Safe Drinking Water Standard of 15 ppb. Zinc was detected at 33 ppb which is below EPA's Safe Drinking Water Standard of 5000 ppb. Additional protection to public health is provided by the SJWD water plant which treats the water prior to distribution to the public. Because the water continues to be treated prior to distribution to the public, adverse health effects from the use of this water source are unlikely.
- Based on a review of all available data at the time of its decision, EPA determined that a RI/FFS was required at the Site.

CURRENT SITE STATUS

In 1999, Springs voluntarily entered into an **Administrative Order on Consent** with EPA to perform the RI/FFS activities at the Site. RI/FFS field work was conducted intermittently from May 2001 to January 2003. During the RI/FFS field work, approximately 200 samples (groundwater, soil, sediment and surface water) were collected to characterize the Site (Figure 2).

From October 2002 to January 2003, Springs conducted a voluntary, Early Action at the Site. The objective of the Early Action was to resolve whether the surface debris disposed at the Site from the 1920's to the 1960's had the potential to create additional impacts to the Site. This was done by evaluating the types of materials that constituted the horseshoe shaped surface debris berm located along the Site's southern boundary. The Early Action consisted of the following components: removal of surface debris located in the southern portion of the Site, characterization of the surface debris that was removed, collection of confirmatory soil samples in the areas of removal, evaluation of options

for the removed debris, and the disposal of the surface debris that was removed. Approximately 16,200 tons of screened soil and 6,141 tons of miscellaneous debris (i.e., glass, brick, concrete, wood, plastic, rusted drums, cloth and other miscellaneous general household debris) were removed from the horseshoe shaped surface debris berm. With EPA and SCDHEC concurrence, Springs disposed of the miscellaneous debris at the Palmetto Landfill. The screened soils, consisting of approximately 16,200 tons were not disposed off-Site and remain stockpiled on-Site. Therefore, this soil will be addressed as part of the Proposed Action.

STUDY FINDINGS

Based upon the laboratory analytical results collected during the RI activities, the **Baseline Risk Assessment (BRA)** and the **Ecological Risk Assessment (ERA)** for the Site, soil is the only **environmental medium** of concern. The soil data collected during the various phases of the RI and following the Early Action have indicated a limited number of areas with exceedances of health-based standards. The primary **chemicals of concern (COCs)** in surface soils are arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-c-d)pyrene and iron. Although several constituents were detected in the groundwater, surface water and sediments, the **concentration** levels do not warrant active remediation. However, additional monitoring will be conducted prior to and following the non-time-critical removal action.

RESULTS OF THE RISK EVALUATION

Part of EPA's study of the Site included evaluating potential risks to human health and the environment caused by exposure to hazardous substances at the Site. A summary of these risk assessments follows.

Human Health Risks

Chemicals detected on-Site were evaluated according to their potential to produce either cancer and/or non-cancer health effects. The carcinogenic risk range EPA has set for Superfund cleanups to be protective of human health is 1×10^{-4} to 1×10^{-6} . For example, a cancer risk of 1×10^{-4} indicates that an individual has a 1 in 10,000 or 1 in 1,000,000 for 1×10^{-6} incremental chance of developing cancer as a result of site-related exposure to a carcinogen over a 70 year lifetime under the specific exposure conditions at the site. EPA generally uses the cumulative

benchmark risk level of 1×10^{-4} for all **exposures** relating to a particular **receptor** to trigger action for applicable media. For example, a carcinogenic risk greater than 1×10^{-4} for a receptor would indicate that remedial action for soil should be considered. Non-cancer exposure estimates were developed using EPA reference dose to calculate a **Hazard Index (HI)**. A HI greater than 1 indicates that constituents are present at concentrations that may produce harmful effects. CERCLA guidance indicates that a cancer risk of 1×10^{-6} and an HI of 1.0 should be used as the point of departure when considering acceptable risk levels for a site. EPA may base cleanup levels on a cancer risk level of as high as 1×10^{-4} for the Lyman Dyeing & Finishing Site. However, EPA is selecting cleanup levels based on a more conservative cancer risk level of 1×10^{-6} .

In evaluating the current land use (industrial), the BRA considered the risks from Site contaminants to a site visitor/trespasser. This part of the BRA examined surface soil, sediment and surface water as the primary points of exposure. Significant risks were indicated for the current site visitor/trespasser from exposures to Site surface soil. Generally, the concentrations of arsenic, benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene, chrysene, indeno(1,2,3-c-d)pyrene and iron were the contributors to the calculated risk levels.

In developing the risk assessment for future exposures, the BRA considered the future use of the Site. The current land use is industrial. However, for completeness of the BRA, the BRA assessed both the future residential and commercial/industrial land use scenarios. Since SCDHEC classifies all groundwater as a potential source of drinking water, the groundwater beneath the Site was conservatively assumed to be a source of drinking water. Significant risks were indicated for residential and industrial exposures to groundwater. Risks to both industrial and residential receptors from groundwater were primarily driven by four chemicals; arsenic, benzo(b)fluoranthene, iron and manganese. However, groundwater ingestion may not be a likely exposure pathway since groundwater at the Site is not currently used for consumption. Furthermore, available data indicates that the groundwater quality at the Site meets the drinking water standards promulgated under the Safe Drinking Water Act. One example, arsenic was detected at 3.2 ppb which is below EPA's Safe Drinking Water Standard of 10 ppb.

Constituent concentrations in wetland and river surface water and sediment did not result in estimates of significant risks for any human exposure pathway.

Ecological Risks

Site surface soil pathways represent the most important risk potential for ecological receptors via direct toxicity and food chain bioaccumulation. By comparison sediment and surface water represent a nominal risk potential with the wetland area being slightly more important than the Middle Tyger River. Within these media, **Polycyclic Aromatic Hydrocarbons (PAHs)** are the constituents of most concern for ecological effects.

Actual or threatened releases of hazardous substances from this Site, if not addressed by the Preferred Alternative or one of the other active measures considered, may present a current or potential threat to public health, welfare, or the environment.

REMEDIAL ACTION OBJECTIVES

The results of the BRA and the ERA performed during the RI indicated that only soil warrant remedial action as the presence of contaminants, in this environmental medium, may present an unacceptable risk to human health and the environment. Based on the results of the RI, BRA and ERA, the following remedial action objectives for the Site have been established:

- Prevent exposure of human and ecological receptors to contaminated Site soils,
- Prevent migration of contaminants from Site soils to groundwater,

- Prevent migration of contaminants from Site soils to surface water and protect the SJWD drinking water intake; and
- Monitor the effectiveness of the remedy.

Soil

This proposed action will reduce the human carcinogenic and non-carcinogenic risks associated with exposure to contaminated soil to 1×10^{-6} or one in one million and an HI of 1. In order to achieve this risk reduction, the target levels for the COCs have been calculated as follows:

arsenic	3.4	mg/kg
benzo(a)anthracene	2.8	mg/kg
benzo(a)pyrene	.032	mg/kg
benzo(b)fluoranthene	2.8	mg/kg
benzo(k)fluoranthene	27	mg/kg
chrysene	277	mg/kg
dibenzo(a,h)anthracene	.032	mg/kg
indeno (1,2,3-c-d)pyrene	2.8	mg/kg
iron	60,800	mg/kg

SUMMARY OF ALTERNATIVES

The remedial alternatives for the Site are presented in the following summary table.

Summary of Alternatives For Soil

Alternative	Type of Action	Estimated Cost
1	No Action	\$ 546,584
2	Institutional Controls	\$ 660,980
3	Source Excavation and Two Years Monitoring	\$ 5,581,498
4	Limited Excavation and Long-Term Monitoring	\$ 2,719,096
5	Limited Excavation w/Partial Cap and Long-Term Monitoring	\$ 2,792,983
6	Limited Excavation w/Cap and Long-Term Monitoring	\$ 2,879,699
7	Limited Excavation w/Cap and Long-Term Monitoring/ Partial Consolidation of Screened Soil under the Cap	\$ 2,548,810

Alternative 1: No Action

The no action alternative provides a base line to consider what would happen if no new action was proposed for the Site. With the No Action alternative, no remedial actions will be performed to actively reduce mobility, toxicity, or volume of the chemicals of concern found in the groundwater and associated soil. Under this alternative, no changes would be made to existing site conditions or

exposure scenarios. NCP-required five year monitoring costs are associated with this alternative. Present worth analysis are based on review once every five years for 30 years.

In addition, the screened soil remaining from the Early Action surface debris removal activity (approximately 100% or 16,200 tons of the total screened soils available) will be

transported and disposed of off-Site at a qualifying facility.

Alternative 2: Institutional Controls

Institutional controls would limit the exposure pathways to soils and groundwater potentially containing contaminants of concern. **Institutional controls** may involve **deed restrictions**, well permitting requirements, zoning controls and access restrictions, and would mitigate the potential risk to human health by restricting the potential exposure pathways.

In addition, the screened soil remaining from the Early Action surface debris removal activity (approximately 100% or 16,200 tons of the total screened soils available) will be transported and disposed of off-Site to a qualifying facility.

Alternative 3: Source Excavation and Two Years Monitoring

This alternative would involve the excavation of the surficial soils (Hot-Spot excavations) in areas of the southern portion of the Site where COC concentration levels result in a risk greater than 1×10^{-6} using the Industrial Scenario for Human Health & Ecological; excavation of the Source Area (5-20 feet below land surface) located in the northern portion of the Site to the depth of the soil/groundwater interface; two years of monitoring for groundwater, surface water in the wetlands, sediments in the wetlands, surface water at the SJWD intake, and the sediments at the SJWD intake; and institutional controls. Excavated materials will be disposed in an off-Site landfill. Imported clean fill material will be required to backfill the areas of impacted soil removal. It is anticipated monitoring will cease after 2 years. As part of this alternative, Institutional Controls will be implemented to minimize the potential for human and ecological exposure to impacted soils in the future.

In addition, the screened soil remaining from the Early Action surface debris removal activity (approximately 100% or 16,200 tons of the total screened soils available) will be transported and disposed of off-Site at a qualifying facility.

Alternative 4: Limited Excavation and Long-Term Monitoring

This alternative would involve the excavation of the surficial soils (Hot-Spot excavations) in areas of the southern portion of the Site where COC concentration levels result in a risk greater than 1×10^{-6} using the Industrial Scenario for Human Health & Ecological; excavation of the Source Area (1 foot below land surface) located in the northern portion of the Site; long-term monitoring (minimum 5 years) for groundwater, surface water in the wetlands, sediments in the wetlands, surface water at the SJWD intake, and the sediments at the

SJWD intake; and institutional controls. Excavated materials will be disposed in an off-Site landfill. Imported clean fill material will be required to backfill the areas of impacted soil removal. As part of this alternative, Institutional Controls will be implemented to minimize the potential for human and ecological exposure to impacted soils in the future.

In addition, the screened soil remaining from the Early Action surface debris removal activity (approximately 100% or 16,200 tons of the total screened soils available) will be transported and disposed of off-Site at a qualifying facility.

Alternative 5: Limited Excavation w/Partial Cap and Long-Term Monitoring

This alternative would involve the excavation of the surficial soils (Hot-Spot excavations) in areas of the southern portion of the Site where COC concentration levels result in a risk greater than 1×10^{-6} using the Industrial Scenario for Human Health & Ecological; excavation of the Source Area (1 foot below land surface) located in the northern portion of the Site; long-term monitoring (minimum 5 years) for groundwater, surface water in the wetlands, sediment in the wetlands, surface water at the SJWD intake, and the sediments at the SJWD intake; and institutional controls. Excavated materials will be disposed in an off-Site landfill. Imported clean fill material will be required to backfill the areas of impacted soil removal. As part of this alternative, Institutional Controls will be implemented to minimize the potential for human and ecological exposure to impacted soils in the future. An engineered **cap**, consisting of 18" of clay with 10^{-6} permeability plus 12" of cover with clean fill material will be installed at the source area locations. As part of the Institutional Controls, a fence will be placed around the cap and appropriate signs will be posted at the Site to deter trespassing.

In addition, the screened soil remaining from the Early Action surface debris removal activity (approximately 100% or 16,200 tons of the total screened soils available) will be transported and disposed of off-Site at a qualifying facility.

Alternative 6: Limited Excavation w/Cap and Long-Term Monitoring

This alternative would involve the excavation of the surficial soils (Hot-Spot excavations) in areas of the southern portion of the Site where COC concentration levels result in a risk greater than 1×10^{-6} using the Industrial Scenario for Human Health & Ecological; excavation of the Source Area (1 foot below land surface) located in the northern portion of the Site; long-term monitoring (minimum 5 years) for groundwater, surface water in the wetlands, sediment in the wetlands, surface water at the SJWD intake, and the sediments at the SJWD intake; and institutional controls. Excavated materials

will be disposed in an off-Site landfill. Imported clean fill material will be required to backfill the areas of impacted soil removal. As part of this alternative, Institutional Controls will be implemented to minimize the potential for human and ecological exposure to impacted soils in the future. An engineered cap, consisting of 18" of clay with 10^{-6} permeability plus 12" of cover with clean fill material will be installed at the source area locations. As part of the Institutional Controls, a fence will be placed around the cap and appropriate signs will be posted at the Site to deter trespassing. This alternative is the same as Alternative 5, except the size of the cap is larger.

In addition, the screen soil remaining from the Early Action surface debris removal activity (approximately 100% or 16,200 tons of the total screened soils available) will be transported and disposed of off-Site at a qualifying facility.

Alternative 7: Limited Excavation w/Cap and Long-Term Monitoring /Partial Consolidation of Screened Soil under the Cap.

This alternative would involve the excavation of the surficial soils (Hot-Spot excavations) in areas of the southern portion of the Site where COC concentration levels result in a risk greater than 1×10^{-6} using the Industrial Scenario for Human Health & Ecological; excavation of the Source Area (1 foot below land surface) located in the northern portion of the Site; long-term monitoring (minimum 5 years) for groundwater, surface water in the wetlands, sediment in the wetlands, surface water at the SJWD intake, and the sediments at the

SJWD intake; and institutional controls. Excavated materials will be disposed in an off-Site landfill. Imported clean fill material will be required to backfill the areas of impacted soil removal. As part of this alternative, Institutional Controls will be implemented to minimize the potential for human and ecological exposure to impacted soils in the future. An engineered cap, consisting of 18" of clay with 10^{-6} permeability plus 12" of cover with clean fill material will be installed at the source area locations. As part of the Institutional Controls, a fence will be placed around the cap and appropriate signs will be posted at the Site to deter trespassing. Same as Alternatives 5 & 6, except the size of the cap is larger.

Furthermore, the screen soil remaining from the Early Action surface debris removal activity (approximately 75% or approximately 12,150 tons of the total screened soils available) will be placed and compacted on the Source Area excavation area prior to installation of the engineered cap. These screened soils will be used to fill in low areas within the area to be capped to provide a gently sloping surface to minimize construction, drainage, and maintenance issues.

Approximately 4,100 tons of screened soils will be transported and disposed of off-Site at a qualifying facility.

ANALYSIS OF ALTERNATIVES

The alternatives were evaluated according to seven of the nine criteria provided below.

Summary of Evaluation Criteria	
<p>How Evaluation Criteria are Used</p> <p>In selecting a preferred cleanup alternative, the EPA uses the criteria presented here.</p> <p>The first two must be met before an alternative is considered further.</p> <p>The next five are used to further evaluate options.</p> <p>The final two are then used to evaluate the remaining options after comments have been received from the community and the state.</p>	<p>Overall Protectiveness of Human Health and the Environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.</p>
	<p>Compliance with ARARs evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site, or whether a waiver is justified.</p>
	<p>Long-term Effectiveness and Permanence considers the ability of an alternative to maintain protection of human health and the environment over time.</p>
	<p>Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.</p>
	<p>Short-term Effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.</p>
	<p>Implementability considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.</p>
	<p>Cost includes estimated capital and annual operations and maintenance costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.</p>
	<p>State/Support Agency Acceptance considers whether the State agrees with the EPA's analyses and recommendations, as described in the RI/FS and Proposed Plan.</p>
	<p>Community Acceptance considers whether the local community agrees with EPA's analyses and preferred alternative. Comments received on the Proposed Plan are an important indicator of community acceptance.</p>

A detailed analysis is provided in the Focused Feasibility Report. SCDHEC has reviewed this Proposed Plan and concurs with the Preferred Alternative. The remaining criteria, *Community Acceptance* will be evaluated after the public comment ends and will be described in the **Action Memorandum** for the Site.

NON-TIME-CRITICAL REMOVAL

Prior to the completion of the RI/FFS, EPA evaluated the Site in order to determine its eligibility for a non-time-critical removal action. Applying a non-time-critical removal to the Site instead of a remedial action has the potential to reduce the time and administrative costs of the response action while still insuring that the Site is cleaned to levels that are protective of human health and the environment. EPA has determined that the Site is eligible for a non-time-critical removal because:

- 1) a planning period of at least 6 months exists before onsite activities must be initiated,
- 2) the impacts to groundwater, surface water and sediments at the Site or downstream from the Site do not require *active* remediation,
- 3) there are high levels of contaminants in soils largely at or near the surface that may migrate to nearby human populations, sensitive ecosystems and drinking water supplies,
- 4) the Baseline Risk Assessment determined that there is a significant risk to the current site visitor/trespasser from on-site soil, and
- 5) the active cleanup alternatives are appropriate removal actions based on Sections 300.415(b)(2) and (e) of the NCP.

Based on the reasons set forth above, EPA has decided to proceed with the non-time-critical removal action at the Site. According to Section 300.415(b)(4), a non-time-critical removal must be supported by an **Engineering Evaluation/Cost Analysis (EE/CA)** or its equivalent. Since the RI/FFS includes all of the elements of an EE/CA,

EPA has made a site-specific decision to let the RI/FFS serve as the EE/CA. Although various cleanup alternatives were evaluated during the RI/FFS, each of the alternatives can be effectively implemented as part of a non-time-critical removal response action.

EPA'S RECOMMENDED ACTION

Based on the Administrative Record File and the comparative evaluation of alternatives, EPA recommends the following alternative for addressing contamination at the Site.

Alternative 7: Limited Excavation w/Cap and Long-Term Monitoring/Partial Consolidation of Screened Soil under the Cap.

This alternative prevents direct exposure and minimizes the potential for soil leaching of COCs for groundwater, prevents further erosion of the embankment, and prevents potential exposure to soil. This alternative is illustrated in Figure 3.

COMMUNITY PARTICIPATION

EPA and SCDHEC provide information regarding the cleanup of the Lyman Dyeing & Finishing Site to the public through public meetings, the Administrative Record file for the Site, and announcements published in the Spartanburg Herald. EPA and SCDHEC encourage the public to gain a more comprehensive understanding of the Site and the Superfund activities that have been conducted at the Site. Dates for the public comment period and the date, location, and time of the public meetings are provided on the front page of this Proposed Plan.

All comments, written and oral, should be directed to Yvonne Jones, Remedial Project Manager for the Site, at the address, telephone number, or EMAIL address provided below. Upon timely request, EPA will extend the public comment period by 15 days. Background and other information on the Lyman Dyeing & Finishing Site cleanup (including investigation reports and work plans) can be found in the Administrative Record and information repositories established for the public by EPA. These repositories can be visited at the locations below.

ADMINISTRATIVE RECORD AND INFORMATION REPOSITORIES

Middle Tyger Branch Library
170 Groce Road
Lyman, SC 29365
(864) 439-4759

U.S. EPA Region 4 Records Center
Attn: Debbie Jourdan
61 Forsyth Street, SW
Atlanta, GA 30303
(404)568-8862

FOR MORE INFORMATION CONTACT:

Yvonne Jones
Remedial Project Manager
EPA Region 4
Atlanta Federal Center
61 Forsyth Street, SW, Atlanta, GA 30303
(404) 562-8793; 1-800-435-9233
jones.yvonneO@epa.gov

or

Mihir Mehta
Project Manager
SCDHEC
Bureau of Land & Waste Management
2600 Bull Street, Columbia, SC
(803) 896-4088
Mehtam@dhec.sc.gov

GLOSSARY

Administrative Order on Consent (AOC) - A negotiated legal agreement between EPA and the PRPs. The AOC is enforceable in a court of law, and AOC activities are overseen by EPA.

Action Memorandum - A public document that explains which response alternative will be used for a site. The action memorandum is based on information and technical analysis and consideration of public comments and community concerns.

Administrative Record - A file containing all information used by EPA to select a response action under CERCLA. This file must be available for public review and a copy is to be established at or near the Site, usually at the information repository. A duplicate file is maintained in a central location such as a regional EPA and/or state office.

Baseline Risk Assessment - An evaluation of the potential risk to human health and the environment in the absence of remedial action or cleanup.

Cap - An impermeable layer that seals a hazardous waste site. A cap is designed to seal off all exposure pathways of the hazardous waste contained within.

Chemicals of Concern - Those constituents that significantly contribute to a pathway in an exposure scenario for a receptor that either exceeds the cumulative site cancer risk range of 10^{-4} to 10^{-6} or exceeds a non-carcinogenic hazard index (HI) of 1.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) - A federal law passed in 1980 and modified in 1986 by the Superfund Amendments and Reauthorization Act (SARA). The Act created a trust fund, known

as Superfund to investigate and clean up abandoned or uncontrolled hazardous waste sites.

Concentration - The amount of a chemical in a given volume of air, water, or other medium. An example is 15 parts of carbon in a million parts of air.

Deed Restriction - A legal document that places restrictions on how a property may be used. Deed restrictions are used to prevent property owners from conducting certain activities (for example, digging into the ground) that may cause them to come into contact with contamination.

Drinking Water Standards - Regulations applying to public water systems and specifying the maximum contamination levels that, in the judgment of EPA, are required to protect the public welfare.

Ecological Risk Assessment - As part of the RI, this is a phased (multi-part) study to consider whether, and to what degree, natural ecosystems on and around the site have been affected by site contamination. As with the Baseline Risk Assessment, results from this study are considered in the Feasibility Study.

Engineering Evaluation and Cost Analysis (EE/CA) - Study conducted as part of the Removal process to collect necessary data to determine the type and extent of contamination at the site and evaluate alternatives for addressing this contamination.

Environmental Media - Specific environments--air, water, soil--which are the subject of regulatory concern and activities.

Environmental Medium - A major environmental category that surrounds or contacts humans, animals, plants, and other organisms (e.g., surface water, ground water, soil or air) and through which chemicals or pollutants move.

Exposure - Coming into contact with a substance through inhalation, ingestion, or direct contact with the skin; which may be acute (short-term) or chronic (long-term).

Hazard Index (HI) - A summary of HQ values for one pathway, medium, or land use scenario. EPA generally requires that remedial actions be taken at sites which have a current land use HI, or future use HI, that is greater than 1.0.

Groundwater - Water found beneath the Earth's surface that fills pores between materials, such as sand, soil, or gravel, or within the fractures of competent rock.

Information Repository - Materials on Superfund and a specific site located conveniently for local residents.

Institutional controls - A legal or administrative action or requirement imposed on a property to limit or prevent property owners or other people from coming into contact with contamination on the property. Institutional controls may be used to supplement a cleanup (by limiting contact with residual contamination). Examples include deed notices, deed restrictions, and long-term site monitoring or site security requirements.

Milligrams per kilogram (mg/kg) - The term mg/kg or milligrams per kilogram, is equivalent to the expression "part per million or ppm." This is a common unit of measure for chemical concentrations in soil. One milligram is 1/1000 of a gram. One gram weighs about the same as a postage stamp, or about 1/28 of an ounce.

National Contingency Plan (NCP) - Short name for the "National Oil and Hazardous Substances Pollution Contingency Plan," the Federal regulation that implements Superfund Program and other parts of the nation's response to hazardous substances. The NCP is 40 Code of Federal Regulations (CFR) Part 300. It was last revised in 1990 and was published in Volume 55, Number 46 of the Federal Register (pages 8666-8865).

Non-Time-Critical Removal - Responses performed at sites that eliminate or reduce threats to public health or the environment from the release, or potential release, of hazardous substances or pollutants or contaminants which may pose an imminent and substantial danger to the public health welfare.

parts per billion (ppb) - This term is a way of expressing the concentration of a contaminant in a liquid or air. This term is equivalent to the expression "micrograms per Kilogram" one part per billion is equal to one inch in a distance of about sixteen thousand miles (or a penny in ten million dollars), a very small amount.

Pathway - The "route" a hazardous substance takes from its point of release (the "target") to a person, plant or animal (the "receptor"). The pathway can be direct (when the receptor comes to the target) or indirect (when the hazardous substance migrates from the target to the receptor).

Polycyclic Aromatic Hydrocarbons (PAHs) - A group of chemicals formed during the incomplete burning of coal, oil, gas, refuse, other organic substances. Examples of PAHs are benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, dibenzo(a,h)anthracene and chrysene.

Preferred Alternative - EPA's selected cleanup plan, which is described on the Proposed Plan along with the reasons EPA prefers it to the other possible cleanup plans.

Proposed Plan - A public participation requirement in which the lead agency summarizes for the public the evaluation of cleanup alternatives, the preferred cleanup strategy, and the rationale for the preference. This document must actively solicit public review and comment on all alternatives under consideration.

Receptor - The exposed individual relative to the Exposure Pathway considered.

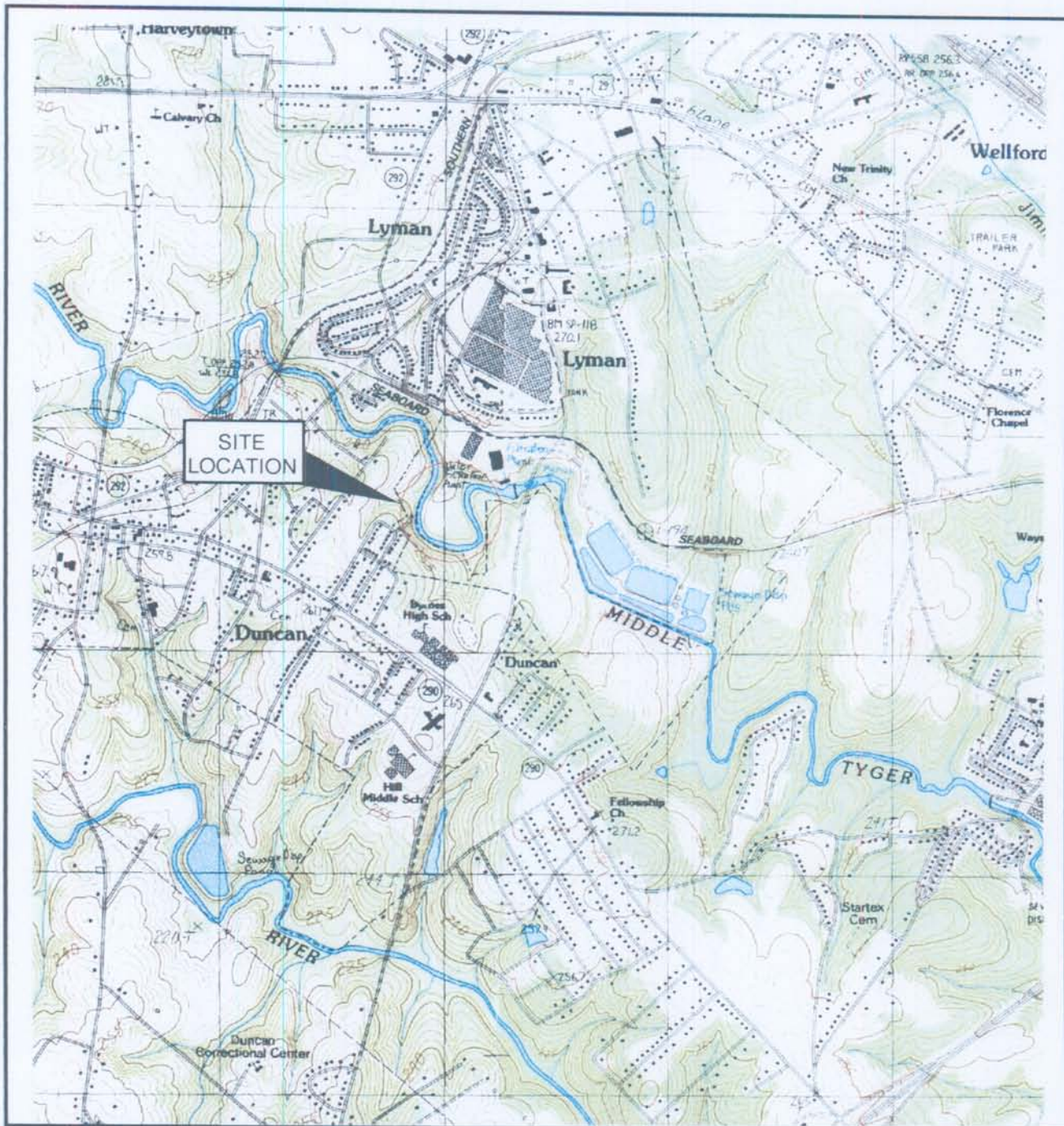
Remedial Investigation/Focused Feasibility Study - Performed at the Site after a site is listed on the National Priorities List (NPL). The remedial investigation (RI) serves as the mechanism for collecting data. The Focused Feasibility Study (FFS) is the mechanism for the development, screening and detailed evaluation of alternative remedial actions. The RI and FFS are conducted concurrently; data collected in the RI influence the development of remedial alternatives in the FFS, which in turn affect the data needs and scope of treatability studies and additional field investigations.

Safe Drinking Water Act - This act protects the quality of drinking water in the U.S. This law focuses on all waters actually or potentially designed for drinking water use, whether from aboveground or underground sources.

Site Investigation - The collection of information from a Superfund site to determine the extent and severity of hazards posed by the site. It follows and is more extensive than a preliminary assessment. The purpose is to gather information necessary to score the site, using the Hazard Ranking System, and to determine if it presents an immediate threat requiring prompt removal.

Surface Water - All water naturally open to the atmosphere (rivers, lakes, reservoirs, ponds, streams, impoundments, seas, estuaries, etc.)

Superfund Amendments and Reauthorization Act (SARA) - Modifications to CERCLA enacted on October 17, 1986.



SOURCE: Base map is from a portion of the USGS 1:24,000 scale topographic map, "Greer, SC" 1983, and "Wellford, SC" 1983.

APPROXIMATE SCALE: 1 IN = 2000 FT

SITE VICINITY MAP

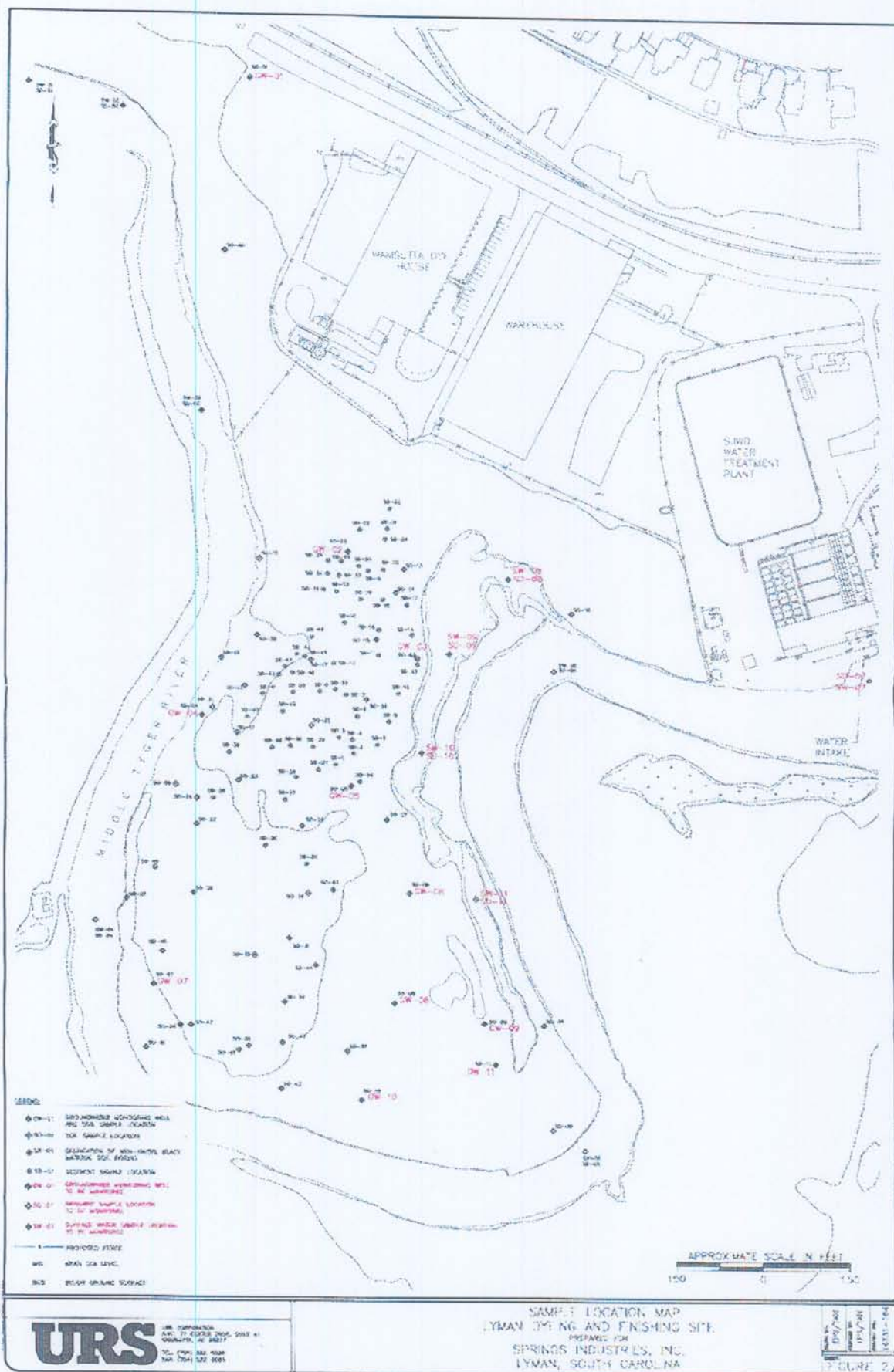


URS Corporation
5301 77 Center Drive, Suite 41
Charlotte, North Carolina 28217
(704) 522-0330

LYMAN DYEING AND FINISHING SITE
LYMAN, SOUTH CAROLINA

PREPARED FOR
SPRINGS INDUSTRIES, INC.

SDG	KMM	1-6831-1564
FIGURE 1		



USE THIS SPACE TO WRITE YOUR COMMENTS

Your input on the Proposed Cleanup Plan for the Lyman Dyeing & Finishing Site is important to EPA. The public's comments help EPA select a final cleanup remedy for the site.

You may use the space below to write your comments, then fold and mail. Comments must be postmarked by September 5, 2003. Please contact Yvonne Jones at 404-562-8793 if you have any question about the comment period.

If you have access to E-Mail, you may send comments to: jones.yvonneo@epa.gov

.....

Fold on dashed line, staple, stamp and mail.

Name: _____

Address: _____

City: _____ State: _____ Zip: _____

Place
Stamp

Yvonne Jones
Remedial Project Manager
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Atlanta, Georgia 30303